

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all previous listings and versions of claims in this application.

1. (Currently Amended) In a method of preparing a wafer that has front and back surfaces that are suitable for use in optical, electronic, optoelectronic or micromechanical devices, the improvement which comprises applying a top layer proximate to at least a portion of the front surface of the wafer; and applying a cap layer comprising diamond-like carbon and being applied proximate to at least a portion of the back surface of the wafer to facilitate handling of the wafer while protecting at least the back surface portion from damage; wherein the cap layer is applied to the back surface of the wafer before the top layer is applied the front surface of the wafer.

2. (Original) The invention of claim 1, wherein the cap layer is applied proximate to the entire back surface of the wafer and optionally along at least a portion of a side of the wafer that extends between the surfaces to fully protect the back surface of the wafer from damage during handling.

3. (Cancelled)

4. (Previously Presented) The invention of claim 1, wherein the top layer is applied proximate to the entire front surface of the wafer and optionally along at least a portion of a side of the wafer.

5. (Cancelled)

6. (Original) The invention of claim 1, wherein the cap layer is applied by at least one of the methods consisting of chemical vapor deposition (CVD), physical vapor deposition, plasma enhanced CVD, low pressure CVD, sputtering and evaporation.

7. (Original) The invention of claim 1, which further comprises creating a first functional structure on the front surface of the wafer, wherein the cap layer is applied before the first functional structure is created.

8. (Original) The invention of claim 7, which further comprises a creating a second functional structure on the front surface of the wafer, wherein the cap layer is applied after the first functional structure is created, but before the second functional structure is created.

9. (Original) The invention of claim 7, wherein the cap layer is applied as first and second sublayers.

10. (Currently Amended) The invention of claim 9, which further comprises removing at least one of the sublayers and then creating ~~advancing the wafer that includes the sublayers to a location where the~~ first functional structure is created on the front surface of the wafer, ~~and then removing at least one of the sublayers before the functional structure is created.~~

11. (Currently Amended) The invention of claim 9, which further comprises advancing the wafer that includes the sublayers to a location where the first functional structure is created on the front surface of the wafer, and then removing at least one of the sublayers after the first functional structure is created.

12. (Original) The invention of claim 11 wherein the sublayer is removed by at least one of dry etching, wet etching or polishing.

13. (Original) The invention of claim 11, wherein the sublayer is removed by chemical mechanical polishing.

14. (Currently Amended) The invention of claim 9, which further comprises applying an etch stop layer as the first sublayer, with the first sublayer ~~that is~~ positioned closer to the wafer than the second sublayer.

Claims 15. to 25. (Cancelled)

26. (Currently Amended) The invention of claim 1, wherein the cap layer includes at least two sublayers which are of the same or different material.

27. (Currently Amended) The invention of claim 26, wherein the first sublayer [[that]] is positioned closer to the wafer and comprises an etch stop layer.

28. (Previously Presented) The invention of claim 1, wherein the cap layer includes a sublayer having a minimum thickness of about 20 nm.

29. (Previously Presented) The invention of claim 28, wherein the sub layer has a thickness of between about 50-1000 nm.

30. (Cancelled) The invention of claim 1, wherein the cap layer includes a material from the group consisting of SiO₂, Si₃N₄ and diamond like carbon.

31. (Previously Presented) The invention of claim 9, wherein the wafer is quartz and the top layer comprises silicon.

32. (Cancelled)

33. (New) The invention of claim 1, wherein the top layer is applied by bonding that layer onto the front surface of the wafer.

34. (New) The invention of claim 33, wherein the top layer is bonded to the wafer by bonding a further wafer that includes the top layer and then by detaching the top layer from the further wafer.

35. (New) The invention of claim 34, wherein the bonding is molecular bonding.